This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A method of scheduling a sequence of instructions, comprising:

reading a target program;

identifying a pipeline control hazard in the sequence of instructions;

selecting the sequence of instructions to re-order;

re-ordering the sequence of instructions by executing a backward scheduling method; and

re-ordering the sequence of instructions by executing a forward scheduling method.

2. (Original) The method as recited in claim 1, wherein the pipeline control hazard is a branch instruction.

3. (Original) The method of claim 1, further comprising:

performing the backward scheduling method prior to performing the forward scheduling method.

4. (Original) The method of claim 1 wherein the forward scheduling method reorders at least one instruction within a delay slot.

5. (Original) The method of claim 1, further comprising:

evaluating the forward scheduling method for a schedule failure; and

using the backward scheduling method result when the forward schedule method

encounters the schedule failure.

6. (Original) The method of claim 3, further comprising:

packing the delay slot subsequent to executing the forward scheduling method.

7. (Original) The method of claim 4 wherein the delay branch is a fixed length.

8. (Original) The method of claim 4 wherein the delay branch is a variable

length.

9. (Original) A machine readable medium having stored therein instructions for

use in a machine, the instructions comprising:

instructions to schedule a sequence of instructions;

instructions to read a target program;

instructions to identifying a pipeline control hazard in the sequence of

instructions;

instructions to select the sequence of instructions to re-order;

instructions to re-order the sequence of instructions by executing a

backward scheduling method; and

instructions to re-order the sequence of instructions by executing a

forward scheduling method.

10.   (Original)   A machine readable medium as claimed in claim 9, wherein the pipeline control hazard is a branch instruction.

11.   (Original)   A machine readable medium as claimed in claim 9, further comprising:

instructions to perform a backward scheduling method prior to performing the forward scheduling method.

12.   (Original)   A machine readable medium as claimed in claim 9, wherein the forward scheduling method reorders at least one instruction within a delay slot.

13.   (Original)   A machine readable medium as claimed in claim 9, further comprising:

instructions to evaluate the forward scheduling method for a schedule failure; and

instructions to use the backward scheduling method result when the forward schedule method encounters the schedule failure.

14.   (Original)   A machine readable medium as claimed in claim 9, further comprising:

instructions to pack the delay slot subsequent to executing the forward scheduling method.

15.   (Original)   A machine readable medium as claimed in claim 9, wherein the delay branch is a fixed length.

16.   (Original)   A machine readable medium as claimed in claim 9, wherein the delay branch is a variable length.

17.   (Original)   A system comprising:

one or more processors; and

a memory coupled to the one or more processors, the memory having stored therein a program code which, when executed by the one or more processors, causes the one or more processors to:

read a target program;

identify a pipeline control hazard in a sequence of instructions;

select the sequence of instructions to re-order;

re-order the sequence of instructions by executing a backward scheduling method; and

re-order the sequence of instructions by executing a forward scheduling method..

18.   (Original) The system as claimed in claim 17, wherein the system is a computer system.

19.   (Original) The system as claimed in claim 17 further comprises a display device.

20.   (Original)The system as claimed in claim 17, wherein the pipeline control hazard is a branch instruction.

21.   (Original)The system as claimed in claim 17, further comprising:

performing the backward scheduling method prior to performing the forward scheduling method.

22.   (Original)The system as claimed in claim 17 wherein the forward scheduling method reorders at least one instruction within a delay slot.

23.   (Original)The system as claimed in claim 17, further comprising:

evaluating the forward scheduling method for a schedule failure; and

using the backward scheduling method result when the forward schedule method encounters the schedule failure.

24.   (Original)The system as claimed in claim 21, further comprising:

packing the delay slot subsequent to executing the forward scheduling method.

25.   (Original)The system as claimed in claim 22 wherein the delay branch is a fixed length.

26.   (Original) The system as claimed in claim 22 wherein the delay branch is a variable length.